THE VETERINARY RECORD

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Cool Patronage.

According to *The British Medical Journal's* note on the annual report of the Leicester Bacteriological Institute the Director arranged an exhibit at the Royal Agricultural show in June "with a view to drawing the attention of farmers, agriculturists and veterinary surgeons to the importance of bacteriology in relation to diseases of animals." We do not know who the director may be who couples the veterinarian with farmers as requiring tuition in bacteriology, but he must be grossly ignorant of anything outside of text-books and his own laboratory. Our students are taught, and examined on, bacteriology, and have been so for years. He ought to have had his exhibition at the General Medical Council whose members are still discussing the importance of bacteriology for doctors.

Correction of Register.

On another page will be found a list of names of members to be removed from the Register of the R.C.V.S. Many are practitioners who will certainly not be pleased to see their names, and will possibly feel that they are harshly treated. They are themselves entirely to blame for the position, and the Council are only carrying out the provisions of the Veterinary Surgeons Act, 1881.

Section V. provides for the regular correction of the Register by the Registrar, and the sub-section says: "When the Registrar has reason to think that any person registered has ceased to practice, the Registrar may send by post to such person a notice inquiring whether or not he has ceased to practice or has changed his residence." Clearly the Registrar "has reason to think" a member has retired or ceased to have any interest in his profession when he receives no reply to an official communication. When the annual voting papers are sent out a number are returned through the dead-letter office. These papers show that something is wrong, and if no answer is returned to a further letter requesting information the neglect is followed by a registered letter from the Registrar, and if this remains unanswered for one month the Council may instruct the Registrar to remove the name from the register.

The gentleman who has changed his address without advising the Registrar may consider his fault heavily punished by having his name struck off the list of practitioners; but no other method permits of a correct register being kept. It seems to be forgotten that our Act of Parliament is of more importance than our Charters, and that a correct Register is essential to the preservation of our privileges.

It is also not appreciated apparently that a member whose name is not on the register has no legal claim for his fees, and no right to call himself a "veterinary surgeon." Even an assistant who has, by negligence, allowed his name to be removed from the list is in danger, as his principal may be accused of "covering" for employing him. Gentlemen, whose names are on the list we publish to-day, have not been guilty of any offence or of any fault except negligence; but they should at once communicate with the Registrar, Mr. Hill, 10 Red Lion Square, if they desire to retain the privileges granted by the 1881 Act.

INDIAN HEMP.

(Cannabis Sativa, Var Indica.)

By Vet.-Capt. C. Rutherford, Umballa, India.

As there has been a deal of controversy of late years as to the doses and action of this drug when given to horses, some persons advocating ʒi to ʒii doses, whilst one or two others pin their faith to ʒi doses. I was anxious to test the drug systematically on healthy and diseased horses.

The plant—a nettle varying from 4 to 10 feet high—grows both in a cultivated and wild state, in the hills and plains. It is said that the quality of the active principle (the resin) varies in that the higher up the hills the hemp is grown the less resin is there in the plant and the less powerful are its narcotic properties, but I am unaware if this has been proven. It may be that that sold in England is not made from the best portions of the plant nor according to the usual formula, and hence the varied opinions as to its action. I have been told that some chemists use tops and leaves, others female tops only, others tops and resin, in the making of the extracts.

The usual formula for Extract cannibis indic is as follows:—Dissolve one ounce of the female tops (from which the resin has not been removed) in four ounces of rectified spirits, filter, and evaporate to the consistency of a soft extract.

For tincture cannabis indic: dissolve half-an-ounce of the extract in ten ounces of rectified spirits. Note.—Proof spirit must not be used as the resin is not soluble in it.

The principle forms in which hemp is found and the Hindustani names for the same are:—

1. The resinous substance "cannabin," which exudes spontaneously from the stem, leaves and tops, is the active constituent and is called *churrus*. It is collected in the following crude manner: (*a*) by pressing the fresh plant between the hands and scraping off what adheres, or (*b*) by coolies rushing through fields of hemp with such violence as to bruise the plants and cause the resin to adhere to them, which is then scraped off their bodies. Certainly an improvement in the method of collection might be adopted with advantage to those who may wish for a pure article.

2. The larger leaves and the fruits without the stalks are called *Bhung*, *subjee*, and *sidhee*.

3. *Gunjah* (Hashish in Arabia) is the dried tops of the *female* plants after flowering. This portion of the plant from which the resin has not been removed is official.

4. Two volatile oils, as well as the "cannabin," are said to exist, and are reported in the pharmacopœia of India by W. Martindale to be "rapidly acting irritating poisons."

Hemp is used in India for various purposes; the seeds are non-medical, but containing a quantity of oil are used as food.

A confection "majoon" consisting of *bhung*, butter, sugar, flour and milk is much extolled in Calcutta and eaten as an intoxicant.

A drink is made by powdering up the female tops in a mortar, adding almonds and sugar, and straining.

Many better class natives, when going long journeys, give the leaves (dry *bhung*) to their horses daily to invigorate them, or more probably to prevent them from taking too much out of themselves.

Some native horse dealers drug vicious horses with *bhung* or *gunjah* before offering them for sale. (I have myself successfully quieted a horse with ʒiij of the extract to facilitate shoeing). The same is used as a poultice for "sore backs." A mixture of tobacco and treacle alternately with a layer of the resin (churrus) is smoked as an intoxicant.

The extract used in the following experiments was from one mass supplied to me, and that used for cases mentioned later was from the same stock, and from chemists in Umballa, Simla, and other places. All were uniform in appearance and supposed to have been made from the female tops only.

I do not think the temperature makes the slightest difference in the action of hemp as it has been as good when the temperature was 110°F. in the shade as it was at 50°.

Ext. Cannabis Indic. Gave ʒi in bolus. — Temperature in the shade: At midday—76° F. At night—58° F.

(1.) *A quiet country-bred mare, 8 years of age.*

In 2½ hours after receiving the hemp she became sleepy, but was easily roused or awakened, when she became most excited; she trotted excitedly. Her pulse, taken when quiet, was only a few beats more than previous to the administration of the drug; and the temperature was 2-5ths of a degree more. She remained in this sleepy state for about two hours, and then gradually became more wakeful. She seemed normal at the 6½ hours.

(2.) *A quiet country-bred Gelding, 8 years of age.*

At the second hour he became sleepy looking: there had been no preliminary excitement. In 2½ hours he was standing sound asleep, the eyes were half closed, the legs shaky and bending at the knees, whilst the hocks occasionally "gave way" so that he would sometimes almost fall; the veins of the face were engorged. The pulse was lowered to 30 per minute and became soft, and the respirations from 11 to 9. At the third hour he was sweating at the groin; when taken out of the box he was at first rather excited, and when trotted he did so as if drunk. On being put back into his box he knocked his head against objects as if he could not see distinctly; and then stood with penis "drawn." So he remained for the next three hours, then gradually became more and more wakeful, and at the 8½ hours after receiving the hemp he seemed as usual.

(3.) *A quiet bay, country-bred Gelding, 7 years.*

1st hour.—Nothing unusual noticed. Pulse 4 beats more than before—44 and firm.
1¾ „ Quieter than usual; pulse 38, firm; respirations and temperature normal; feeding as usual.
2nd „ } Penis has been frequently "drawn;" quiet as
3rd „ } before.
5th „ As usual—everything normal.
7th „ Ditto

(4.) *A quiet grey country-bred Gelding, 7 years.*

1st hour.—No change.
1¾ „ Pulse lowered, 4 beats per minute.
2nd „ No other change noticed.
4th „ }
5th „ } No change.
7th „ }

Evidently the hemp had little if any effect.

Temperature in the shade, at midday, 75° F.

(5.) *Quiet chestnut country-bred Mare, 7 years.*

In 1½ hours she became most easily excited on anyone approaching or touching her—I imagined because she could not see distinctly—and trotted as if she were going upstairs; temperature was normal, and pulse lowered two beats only. So she remained for about an hour, and then gradually became quieter and sleepy until, at 4½ hours after receiving the hemp, she was standing sound asleep with eyelids almost closed, a mouthful of hay sticking between her lips, and breathing with a slight snore. Her pulse was now 30 (only 6 below what it was before administration of the hemp), but soft and full. She opened her eyes when I was taking her pulse, but immediately closed them and took no further notice of me. She sweated for an hour or two under her loin rug and where the head collar touched the face. At the 5th hour after administration of the hemp, food was put in front of her, when she roused herself up and ate it though in rather a carelessly slow manner, slobbering and making her face dirty. An hour later she was picking at her hay quietly; her eyes were "heavy" and sleepy looking; and skin was now drying. She afterwards was sound asleep for two hours, standing all the time—at any rate, apparently sound, for she was easily waked; at this time the body became perfectly dry. Three or four hours were occupied over the feed mentioned, which she partook of now and then. After the sleep she roused up and gradually, in four hours' time, was as usual in every way, excepting that her dung was passed in small pellets and in small quantity at a time, and her eyes remained sleepy-looking for about 16 hours after the drug was given.

(6.) *A rather timid chestnut country-bred Gelding, 7 years.*

1st hour—Normal.

3rd hour—Easily startled; pulse 6 beats more than before receiving the hemp; respirations—no change; temperature 4-5th degree up; legs and ears warm.

5½ hours—When approached he jumped about most excitedly; he was sweating profusely at the groin; the penis has been frequently "drawn" and retracted.

6½ hours—Has eaten feed and grass; does not seem nearly so nervous; is warm and dry all over the body.

8½ hours—Normal, and as usual in every way.

Temperature in the shade, at midday, 80° F.

(7.) *A quiet bay Waler Mare, 13 years of age;* has valvular disease of heart.

¾ hour—The pulse from 38 and intermittent became 32 and more intermittent at the jaw; stands quieter than usual.

2nd hour—Standing sleepy, eyeballs heavy-looking; legs and ears rather cold, body warm. Trotting, she was most excited.

2½ hour—Pulse 24, feeble and intermittent; respirations 12; temperature normal.

4th hour—Sleepy, and much the same.

5th hour—Sleepiness is wearing off; pulse has risen to 28.

6½ hour—Appears as usual; pulse 34 per minute and intermittent.

There has been no excitement except when trotted.

Temperature in the shade, at midday, 80°F.

(8.) *A quiet country-bred Gelding, 5 years of age.*

1st hour—No change.

2½ hour—Standing unusually quiet; pulse, temperature and respirations are practically the same as before; he is most easily excited and most nervous if anyone approaches him suddenly; trotted, he carries his head very high, steps on his toes and with great knee-action.

3½ and 4th hours—Very quiet, not sleepy by any means; does not seem so easily startled.

5th hour—He appears normal.

Hemp ℥ij in bolus. { Temperature : At midday—85° F. In evening—58° F.

(9.) *Chestnut country-bred Mare, 10 years, a vicious kicker.*

Temp. 100°, pulse 34, respiration 10. Two hours after administration of the hemp the pulse fell four beats in the minute ; at 2½ hours she began to look drowsy and sleepy and stood quietly with eyelids half closed, the lower lip a little drooping and legs cold. There was no preliminary excitement.

At the 4th hour she was very sleepy, and though eating her grass slowly she did not partake of her feed of grain and bran ; there was a patch of cold sweat on her neck, the temperature 99 3-5th°, pulse 26°, soft ; respirations 10 ; and when taken outside she trotted as usual. There was no excitement and no unsteadiness.

At the 8th hour the temperature was 99°, pulse 26, and respirations 8 ; the eyes dull and sleepy looking, the lower lip hanging pendulous, the legs and ears rather cold, and she stood perfectly firmly on her legs, and so she remained up to the 12th hour.

At the 10th hour, when she was eating her feed, her temperature fell to 98°, but this at the 15th rose to 98 2-5ths, whilst the pulse was 30° and soft, and respirations 8 per minute. Afterwards she began to brighten up and at the 23rd hour she was normal excepting that the eyes looked a little dull.

Weather : Cold at night. Warm at midday.

(10.) *Chestnut gelding, 13 years, quiet.*

Temperature 99 1-5th, pulse 34, respirations 8.

At the 1st hour the temperature rose to 99 2-5ths, he was standing quiet but was easily startled, lower lip pendulous, eyes a little heavy looking, and penis drawn 3 or 4 inches.

Up to the 4th hour he gradually became sleepy-looking and at that time was standing over at the knees, shaky on his forelegs ; temperature now fell to 97°, pulse 28 and soft, respirations 7, and though picking at grass he was not disposed to eat his feed of grain and bran. When trotted he went very unsteadily.

At the 7th hour the abdomen had become tympanitic, the temperature 97°, pulse 26, and respirations 6 ; legs and ears were cold, the penis frequently drawn and retracted, and though still dull and sleepy he ate some grass voluntarily.

At 9½ hours he was still dull and sleepy looking, etc., but had eaten his food ; the temperature was now 98°, pulse 26, and respirations 6.

At the 12th hour he was still dull, sleepy, and shakey on his forelegs ; at the 15th brighter, and at the 18th and 23rd hours he was normal in appearance excepting that the eyes had a dull heavy appearance ; quiet and feeding.

Weather : Warm & dry, at midday, 86° F. At night—58°

(11.) *Bay Gelding, 13 years, very quiet.*

Temperature 99°, pulse 36 per minute, and respirations 8. At the 2nd hour after receiving the hemp he was standing quiet, with a sleepy expression of eyes, a pendulous lower lip, and penis drawn three inches ; the temperature was 99°, pulse 34, respirations 6 ; no previous excitement.

At the fourth hour he had eaten his feed slowly, and had a very dull heavy expression of eyes ; there was no other change.

At the 6th hour he became drowsy and sleepy, his eyelids half closed, and was standing with shakey forelegs bending slightly forward at the knees. He trotted with an extravagant knee action.

Up to the 12th hour he remained in the same condition, but the temperature went down to 98°, pulse 28 and very soft, the ears and legs had become very cold, and the penis was drawn and retracted at intervals.

After this he began to brighten up, the eyes were less sleepy looking, and legs not bent at the knees.

Weather—dry. At midday—86° F. At night—58° F.

(12.) *Brown Australian Gelding, 14 years, very quiet.*

Temperature 100 1-5th, pulse 44, respirations 8. (This horse has scirrhous cord).

At the 2nd hour after receiving the hemp he was quieter than usual, had passed some dung and eaten some grass. The temperature was 100 2-5ths, pulse 42, full, and respirations 7.

At the 4th hour he wore a heavy expression about the eyes, his legs were very cold, but his ears warm ; was eating grass, had passed more dung, temperature now 100 1-5th. When trotted he persisted in tossing his head about a good deal.

At the 6th hour he was markedly drowsy and sleepy looking, standing with eyelids half closed and lower lip pendulous.

At the 7th his temperature was 100°, pulse 42, respirations 8, and he had passed more fœces of usual character.

Up to the 10th hour no other change was noticed, although he roused himself up to drink and eat his feed ; but subsequently he gradually and slowly became brighter about the eyes, although the lower lip remained pendulous until the 14th hour, and at this time too the temperature, pulse, and respirations were the same as at the 7th hour.

Hemp ℥iii in bolus { Temperature in the shade ; At midday—85° F. At night—60° F.

(13). *Grey country-bred Gelding, 6 years.*

In hospital owing to contusions on 3 legs. A horse which is knocked about in the stable because he is dangerous to ride in school. Temperature 100° F. ; pulse 40, and firm ; respirations 10.

1st. hour.—Ate feed and grass.

2nd hour.—Most excited with other horses near him, so I put him in a large open loose box to be alone, then he was quiet. Temperature 100 3-5ths ; pulse 44.

3rd hour.—Sleepy and quiet, but excited if approached suddenly. Temperature 100 3-5ths ; pulse 40, not so firm ; respirations 10.

4th hour.—Very sleepy, eyelids almost closed, takes very little notice of anything or anyone ; extremities warm ; off feed ; penis hanging pendulous, and pale in colour. Temperature 101° ; pulse 40.

6th hour.—Has been asleep standing with eyelids closed for the last half-hour, and noticing nothing—one can do anything with him—when pushed he almost falls, his legs are so shakey : lower lip is hanging pendulous ; penis has been hanging out almost constantly for the last two hours ; has not eaten any food. Temperature 100 4-5ths ; pulse 38, and soft; respirations can scarcely be counted, they are so soft and shallow.

7th hour.—Much the same.

8th hour.—Not quite so sleepy, but still extraordinarily drowsy : eats some grass, stops masticating it and leaves it between teeth or lips, whilst he closes his eyes and drops his lower lip ; penis is still occasionally drawn. Temperature 100 4-5ths ; pulse 38, and soft ; respirations were very shallow.

10th hour.—When he eats some grass he completes mastication and swallows it. Is still very quiet, and staggers if moved. Temperature 100° ; pulse 38, soft.

14th hour.—Has eaten a bran mash and grass greedily, and has been getting stronger on his legs ; less sleepy, and lip less pendulous. Has passed nothing for 10 hours. Temperature 100° ; pulse 40, soft ; respirations 8.

20th hour.—Feeding quietly; is as usual; has passed two lots of dung in small dry pellets.

Hemp ℥iii. Temperature in the shade: At midday—95° F. At night—80° F.

(14). *Chestnut country-bred Gelding, 10 years.*

A somewhat excitable horse. Grain, bran, and grass-fed. Temperature 101 2-5ths; pulse 44, firm; respirations 12. Within an hour he was standing with his penis drawn constantly about 3 or 4 inches; temperature 101 4-5ths; has passed dung of a very dark colour; no excitement.

2nd hour.—Sleepy-looking, with a dull expression of face, quiet, and taking little or no notice of things going on around.

3rd hour.—Has drunk water as usual, and eaten midday feed though slowly; face is dull and sleepy; legs and ears warm; when made to move his forelegs are "shakey"; lip now pendulous. Temperature 101 4-5ths; pulse 60, full.

4th hour.—Stands very quiet with eyelids closed; eyes dull and sleepy; legs shakey when moved; penis still drawn and pale.

5½ hours.—Stands as before, but in addition is trembling all over the body. Has passed fæces of a very dark colour, and urine of strong odour and dark colour. Temperature 101 4-5ths; pulse 64; respirations 18.

7½ hours.—Standing quiet, very sleepy, with eyelids closed and lower lip pendulous; penis still drawn about 4 or 5 inches; still trembling, but not so much; would take no notice of water or food in front of him. Temperature 102 2-5ths, and when moved he staggered like a drunken person.

8th hour.—The trembling has passed off, penis is withdrawn; was taken out and trotted as if he didn't know where he was putting his feet, and he did not go in a straight line.

11½ hours.—Has occasionally been quite bright, woke up and picked at a mouthful of grass, and has eaten some grain and bran, then relapsed into a sleepy state but not such a deep sleep; has been bedded down but has not lain down. Temperature 103; pulse 66; respirations 18.

14th hour.—Eating grass, etc., firm on legs, body warm, but eye has still a dull expression, though he seems lively enough; has passed no dung for 9 hours.

16th hour—He has bilious fever; temperature 105, etc., etc.

Experiment at an end: respirations, pulse, and temperature are no guide in this case owing to the setting in of bilious fever.

Weather dry and hot. Temp. in shade at midday about 98° F. At night about 88° F.

(15). *Chestnut Persian Gelding 9 years.*

An easily excited horse, fed on grain, bran, and grass. Temperature 98; pulse 40; respirations 10.

At ¾ of an hour—Penis is already drawn 3 or 4 inches; lower lip is slightly pendulous, eyes have a dull expression; he is quietly standing with knees a little shaky.

At 1½ hours he is standing sound asleep taking no notice whatever of anything around him, and staggers if pushed; has taken no notice of water and food; penis still drawn. Temperature 98° F.; pulse 38, soft; respirations 10.

At 3rd and 4th hours just the same.

At 5th hour he passed some fæces in hard, dark-coloured pellets; has been picking up some grass and half chewing it, stops, leaving it between teeth or lips, protruding from his mouth. Temperature 98° F.; pulse 36, soft; respirations 8.

At 7th hour he ate a small warm feed—not quite so sleepy.

At 8½ hours he was decidedly more lively and bright, but the eyes had still a dull heavy appearance; penis is almost withdrawn; he stands on his legs firmer, and is picking at grass; he has not urinated for 7 hours.

At 11½ hours he appeared normal and bright.

Hemp ℥iii—Weather same as in case No. 1.

(16.) *Bay country-bred mare, 8 years.*

A quiet horse, fed on grain, bran and grass. Temperature 100° F.; pulse 40; respirations 10.

1st hour—Standing quietly, picking at some grass, with eyelids half closed.

3rd hour.—Is very sleepy and quiet; legs are firm; has passed some soft fæces of usual colour.

5th hour.—Standing sound asleep with eyelids closed; fore legs firm but rather apart from each other; muscles of elbow and stifle trembling; perspiring under rug. Temperature 100 2-5ths; pulse 40, soft; respirations 8.

8th hour.—Perspiring and trembling ceased, and sleepiness has passed off to a large extent; has passed some more dung, same consistence as before; eating feed. Temperature 100 2-5ths; pulse 38, soft; respirations 8. Taken outside she trotted most playfully—far from sleepily.

11th hour.—Still dull and heavy about the eyes; eating grass quietly, and apparently normal, Temperature has fallen to 100

Hemp ℥iv in bolus { Weather mild; temperature about 75° at midday; about 65° at night.

(17.) *Bay country-bred Gelding, 6 years.*

Quiet horse. Temperature 100 4-5th degrees, pulse 40, respirations 12.

1st hour—Becoming sleepy and quiet.

2¾ hour—Decidedly sleepy, standing, swaying about slightly; he picks at some grass, chews it a little, and then stops and drops it, or holds some in his teeth when lower lip is pendulous, or between the lips; penis slightly drawn. Temperature 100 1-5th; pulse 36, soft; respirations 9.

3¼ hour—He is extremely drowsy, eyelids closed, the body swaying slightly backwards and forwards, and yet is easily awakened for a few minutes. Did not touch food, but drank water.

5th hour—Much the same; ears drooping; lower lip very pendulous.

6½ hour—Much the same; offered water, he would not drink it. Temperature 99 3-5th; pulse 36, soft; respirations 9. He trotted steadily without swaying, although so sleepy when quiet.

9th hour—Has been gradually becoming less sleepy-looking; and penis is withdrawn. Lower lip is now less pendulous.

11th hour—Standing quiet simply, with sleepy-looking eyes. He has not eaten any food or grass, Temperature, pulse and respiration as at the 6½ hour.

16th hour—Has gradually become more wakeful and bright, and is eating food and grass; though still dull; no fæces passed since first hour.

24th hour—Cannot notice anything abnormal, excepting that he has passed fæces only once since 16th hour.

Next day the dung was dry and in small pellets.

Weather mild; temperature in shade, at midday, about 75°, at night 60°

(18.) *Bay country-bred Gelding, 6 years. Quiet horse.*

Temperature 100; pulse 34; Respirations 12.

1st hour—Quieter than usual, and not picking at grass.

2nd hour—Quiet and sleepy, with occasional tossing of his head.

3rd hour—Quiet and sleepy, and still tossing his head. Has refused grain and bran, but eating a nibble of grass now and then, and leaving it between his lips and teeth. Penis has been occasionally drawn. Temperature 100;

pulse 40. Taken out, he trotted with his head carried high.

4½ hour—Has been standing for the last hour sound asleep, with closed eyelids, pendent lower lip, and nose propped against the wall.

5th hour—Waked up a little, and occasionally picking at a mouthfull of grass.

7th hour—Standing asleep again with head held low, lower lip pendulous; fore legs slightly apart, but not shaky; legs and ears are cold; penis is drawn about a foot and pale in colour; abdomen tympanitic, but intestinal murmurs can be heard; and there is an occasional slight trembling of muscles of the elbow. Temperature 99; pulse 28, a long beat and very soft: respirations 10.

8th hour—Has been lying down for a quarter of an hour; got up, passed a little dry pellety dung, and a considerable quantity of flatus. Taken out he trotted with his legs wide apart and "all over the place"—as if drunk. Disinclined to eat; still very sleepy, and standing as before described.

10th hour—Much the same.

11th hour—Has just passed some fæces, pellety and covered with mucus; abdomen tympanitic still; he is moving about the box restlessly with staggering gait and sleepy face. Penis has occasionally been withdrawn. Temperature 99 1-5th; pulse 36, soft; respirations 10.

13th hour—Sleepiness has been gradually passing off: is quiet and not moving about; still tympanitic, but passing a lot of wind.

16th hour—Standing quietly eating grass; eyes a little dull and heavy-looking; warm and comfortable under rug.

20th hour—Seems normal. Has passed no more dung since 11th hour.

26th hour—Just passed a little dung—dry, hard and pellety. Bright and cheerful.

Weather same as for case 18.

(19.) *Bay Australian Mare, 15 years; very quiet.*

Temperature 99 3-5ths; pulse 34; respirations 10.

1st hour—No alteration.

2nd hour—No alteration.

2½ hour—Mare standing quiet; passed normal fæces and urine; when taken out she trotted excitedly and with extravagant action.

3rd hour—Stands with dull expression and as if very drowsy, but is easily roused. She refused water, but eating grain and bran slowly.

4th hour—Decidedly sleepy.

5th hour—Now standing sound asleep with closed eyelids; legs firm and straight; no sweating; no tympany.

6½ hour—Temperature 98; pulse 28, soft; respirations 8. In same state as before.

7½ hour—Drank water, and immediately afterwards relapsed into somnolent state. On being taken out, she trotted with an unsteady gait.

9th hour—Still somnolent. Legs and ears rather cold; body warm under rug.

11th hour—A little more wakeful, takes notice of what is going on around, but eyes are half-closed.

13th hour—Still more wakeful. Has passed some dry, pellety dung—the first for 10½ hours.

20th hour—Is fresh and bright; trots as usual. Has passed some dung in night time, firm, and in small pellets.

On the following day the dung remained firm, dry and in small pellets.

Weather same as case 18.

(20.) *Bay country-bred Gelding, 5 years, very quiet, and a crib-biter.*

Temp. 100 F., pulse 32, respirations 8.

1st hour.—Has just passed some dung—in a soft mass.

2nd hour.—No change from the usual.

3rd hour.—Same. Is feeding well, has passed some more dung, firmer, but not in lumps. Temp. 100 F., pulse 38, respirations 10. No alteration in gait when trotted.

5th hour.—Standing quiet, not sleepy.

6½ hours.—Quiet as usual. Body, legs, and ears warm, picking at grass, drank a bucketful of water. Temp. 100 2-5ths, pulse 40, respirations 12.

8th hour.—No change.

11th, 13th } Same.

Note.—Either this horse did not swallow the ball of ext. cannab. indicæ, or it had practically no effect upon him.

Weather: At midday, temp. in the shade about 75° F.
At night cold, and about 55°

(21.) *Bay country-bred Gelding, 5 years, same horse as No. 20.*

Temp. 99° F., pulse 36, firm, respirations 16. Has just come in from three-quarters of an hour's exercise, led. This second dose of hemp was given 13 days after the former one.

2nd hour.—Temp. 99, pulse 34, the respirations 8. I could not see any change.

4th hour.—Temp. 99 2-5ths " " " "

6½ hour.—Temp. 100 1-5th, pulse 36. Eyes have a dull expression, lower lip slightly pendulous. Upper and lower lips seem a little swollen. He trots as usual, is easily startled.

8th hour.—Has been very dull and quiet, with a sleepy expression of face, but became a little nervous and excited when touched on the face. Legs firm, and of ordinary temperature. Temp. 100 1-5th, pulse 34, soft, respirations 8.

9th, 10th, 11th hour.—Temp. 100 2-5ths, pulse 34, soft, respirations 8. He ate feed well and heartily. No further change.

12th hour.—Legs firm, and the lower lip is not now pendulous. Still a little drowsy and very quiet.

14th hour.—Less drowsy, in fact excepting for a sleepy expression of eyes when left very quiet there is nothing abnormal, as the slightest sound rouses him up. Has just passed the usual quantity of dung, in small firm pellets—the first since the hemp was given 14 hours ago.

23rd hour.—Normal in every way. Temp. 100 2-5th, pulse 36, respirations 8.

Note.—Comparing this with No. 20, I presume that horse did not receive all the ball supposed to have been given, so we may exclude No. 20 from our deductions.

Hemp ℥vj. in balls. } Weather: Warm at midday. Coldish at night.

(22.) *Grey country-bred Gelding, 6 years.*

For temperament *vide* No. 13. A horse which was knocked about in the stable because he was unsafe in the school. Temperature 100 4-5th, pulse 38, respirations 12.

1st hour.—Has passed some dung of a natural consistence, etc.

2nd hour.—There was no change to note.

2¾ hour.—Stands quiet, with penis drawn about 3in; body, legs, etc. warm; drank water freely and easily; pulse 40, respirations 10.

3¼ hour.—Is most easily startled at any sound, not at all sleepy-looking. Ate his feed slowly, frequently stopping as if he did not care much for it—half-an-hour occupied in finishing it—ate his grass as usual after the feed.

4½ hour.—Standing very quiet and sleepily, with knees bent and shaking (is remarkably shaky on his forelegs).

5½ hour.—Much the same, but eyelids are not closed;

lower lip is pendulous; when roused up this pendulousness disappears; has been rubbing his nose against, and at times licking the mud wall; penis has been frequently drawn and retracted, there is no sweating; legs are of normal temperature; when taken out he trots with an exaggerated action, tossing his head about. Temp. 99 3-5ths, pulse 34, soft, respirations 11.

6th hour.—Abdomen has become tympanitic, there is no pain with the tympany.

7½ hour.—Standing extremely quiet; eyes dull and lids almost closed when quiet. If moved he does so with an unsteady gait. Is easily roused and then is inclined to eat his bedding; penis is drawn about 4 or 5 inches. Temp. 99 1-5th, pulse 28, soft, respirations 10. Urine is passed freely and of usual colour.

9th hour.—Eyes dull, heavy, and sleepy-looking; lower lip pendulous; mouth is hot and very dry; has been eating feed very slowly, and is picking at bedding; has been frequently drawing and retracting penis.

13th hour.—Stands dull, quiet, and sleepy-looking, but is easily roused: lower lip still pendulous; legs etc. rather cold, firm and steady, not shaking at the knee. Temp. 100, pulse 48, respirations 12.

15th.—Beginning to brighten up; lip not pendulous excepting when he falls asleep for a few minutes.

21st.—By this time all appearances of sleepiness had passed off, and he was bright and cheerful. What little fæces had been passed is small, dry, and pellety.

Weather: Mild at daytime. Cold at night.

(23.) *Chesnut Persian Gelding, 9 years.*

A rather easily excited horse, and a kicker. Temp. 100 1-5th, pulse 32, firm. Put into a busy part of the stable.

1st, 2nd, and 3rd hour.—No change.

4th hour.—Has an excitable manner, and is easily "upset," penis is drawn about four inches, and is very pale. Temp. 99 2-5ths, pulse 32, firm; respirations 8.

5th hour.—Sleepy.

6¼ hour.—Eyelids half closed; dull, heavy and sleepy appearance about the eyes; lower lip is pendulous and tongue is caught between the teeth; rouses himself up now and then to pick at some grass. Temp. 99, pulse 26, very soft. Taken out he trotted very unsteadily, and passed about six small dry pellets of dung. Legs and ears fairly warm.

7th hour.—Stands very quiet, with eyelids nearly closed; forelegs rather shaky; pulse 24, very soft; respirations 9.

9¼ hours.—Same condition, hanging ears, eyelids nearly closed, lip pendulous etc.; is easily roused, but he just as quickly drops off to sleep again. For the last three hours his penis has been constantly hanging out about 12 inches, and very pale in colour. Temp. 100 F., pulse 26, very soft; respirations 8 or 9. Has just passed some dung in small firm pellets.

10½ hour.—Has been picking at food slowly and intermittently for the last hour. When not feeding he is same as above.

13th hour.—Still in same sleepy state.

19th hour.—Beginning to brighten up; lip less pendulous; legs firmer.

23rd hour.—Has not been down during the night; has still a heavy drowsy appearance about the eye. Has just passed the first lot of dung since about the ninth hour.

28th hour.—Pulse has risen gradually to 34 and become firmer, and excepting for a dull heavy expression of eyes he is normal.

Weather: Mild at midday. Cold at night.

(24). *Chestnut country-bred mare, 7 years.*

A very quiet horse. Temperature 101 1-5th; pulse 36, firm; respirations 7. Was put in a busy part of the stable.

2nd hour.—No change.

4th hour.—Picking at grass, ears thrown back; excited expression of face, objects to anyone approaching, and kicked viciously when we attempted to take the temperature, quite contrary to the ease with which it was taken before; pulse 30, firm; mucous membranes paler.

6th hour.—Standing quiet, with bright open eyes; ears held persistently backwards; pulse 28, and soft; temperature 101 1-5th, which she objected to have taken. Taken out she trotted as usual.

7th hour.—Rather sleepy-looking, eyes heavy, lips partially closed.

8th hour.—More sleepy-looking, but most easily roused.

9th.—Decidedly sleepy, but easily roused; lower lip is not pendulous; legs firm and steady; legs and ears warm. Is not in that deep drowsy state evinced by 23.

10th and 11th hour.—No change.

12th hour.—Temperature 101; pulse 28, and so soft that I could scarcely feel it; respirations 10. Has passed no dung since receiving the hemp.

16th hour.—Brightening up, but eyes are still dull and heavy.

24th hour.—Ate food, but very slowly; is bright and cheerful, but in spite of that the eyes have a dullish appearance when she is quiet. Temperature 101; pulse 30, soft; respirations 10.

28th hour.—Much the same appearance, is feeding well: legs, ears, etc., are warm; no dung has been passed for 16 hours and now what little is passed is in small pellets.

32nd hour.—Eyes and everything normal. Subsequently, dung remained hard and in small pellets for a whole day afterwards.

Hemp ℥viii in balls with linseed meal. { Weather: Cold at night. Warm during the day.

(25.) *Iron Grey, country-bred Gelding, 5 years.*

A nervous, kicking brute. Temperature not taken, pulse 32; respirations 12. In the lines with other horses.

1st and 2nd hours.—There is an incessant nervous tossing of the head.

4th hour.—Has been standing very quiet for an hour without tossing his head, but when touched he became excitedly nervous. Penis is drawn about 2 inches. Temperature 99° F.; pulse 30, firm; respirations 8. Has eaten his food as usual.

6th hour.—Eating grass occasionally, and leaving some now and then in between lips for some time; eyes dull and heavy; shaky on fore legs, and body swaying backwards and forwards. When approached *suddenly* his demeanour changes and he "goes for one." Temperature 98 2-5ths F.; pulse 32; respirations 7. He trots very unsteadily; penis has not been out for the last 2 hours.

7th and 8th hours.—Has been very drowsy and sleepy, and *takes no notice of anyone*—a great change within an hour.

9th hour.—In the same condition, with quivering of muscles of elbow and flank; penis drawn about 9 inches. Temperature 99° F.; pulse 28, and very soft; respirations 8.

10th and 11th hour.—*Very* drowsy and sleepy, and constantly swaying backwards and forwards, if moved he tries to steady himself but the legs are very shaky; eyes almost closed; ate his feed but very slowly, and as if he did not care for it.

15th hour.—Sleepier still, and legs used as "props" to steady him.

16th hour.—Same condition, not picking at grass in front of him. No change in temperature, pulse or respirations; no dung has been passed for 16 hours.

23rd.—Standing quiet, with a dull though open eye, eating as usual; has not lain down during the night. Temperature, pulse, and respirations unchanged. Has passed a little dry dung; penis withdrawn.

25th hour.—Brightened up, legs steady and held naturally.

30th hour.—Normal, excepting that the eyes have a sleepy, heavy appearance.

34th hour.—Normal. Temperature 99 2-5ths; pulse 32, and fairly firm; dung usual.

Weather: Cold at night. Warm during the day.

(26). *Grey country-bred Gelding, 6 years.*

Temperature 100 4-5ths F.; pulse 48, firm; respirations 10.

1st and 2nd hours.—Quiet and as usual; picketed out away from all other horses in the lines.

2¾ hours.—Temperature 102 1-5th F.; feeding, and as usual.

3¼ hours.—Becoming sleepy-looking, with a dull expression of eye when perfectly quiet; penis drawn about 3 or 4 inches.

5th hour.—Temperature 100° F.: pulse 32, very soft; respirations 8. Standing with head down, eyelids almost closed, lower lip pendulous, lips slightly swollen; has been picking at grass occasionally, leaving some sticking between the lips and teeth when not eating; pupil is enlarged; is unsteady on his legs and swaying backwards and forwards; does not take the slightest notice of flies on face or body, but is frightened and shivers if touched suddenly; penis is drawn about a foot and is pale in colour; when trotted he did so sideways and very unsteadily; after the trot he stood very unsteadily on his legs, and quivering all over for a few minutes.

6th hour.—No change

7th hour—Temperature 100 2-5ths; pulse 28, very soft; respirations 7.

9th, 10th and 11th hour—Has scarcely moved; some grass has been grasped by lips for the last 2 hours; penis has been out almost constantly for some hours; is breathing with guttural sound; pulse is almost imperceptible, 28 per minute. Temperature 100 2-5th F.

13th hour—Standing the same, with eyelids closed—when they are open he cannot see distinctly, or else he is far too sleepy to take the slightest notice of anything; if moved a little he is most unsteady on his legs; respirations 6 and accompanied still by a guttural sound; pulse 28, extremely soft. Temperature 100 2-5ths.

18th hour—If anything, not quite so sleepy.

22nd hour—Has not laid down during the night; is very quiet and drowsy. but inclined to pick at grass though not at his food.

24th hour—A little brighter, though very quiet still; legs are very unsteady if moved; penis now withdrawn. Temperature 100 3-5ths; pulse 36 per minutes, soft: respirations 8, no guttural sound. He trotted a little unsteadily on his fore legs.

26th hour—Eating very slowly; brighter, but still a little unsteady on his legs; pupil is widely dilated, no change in temperature or pulse.

32nd hour—Has gradually become brighter—outwardly he appears normal, excepting that his eyes have a dull expression. No dung has been passed since the first hour until now, a very little, dry, and in small pellets.

35th hour—Seems normal in every way, but usually quiet. *(To be continued.)*

On the 21st Sept. last a horse was found dead in a field at Clipston. A thunderstorm had just passed over and it was thought the horse had been struck by lightning, as it was alive and well a short time before the storm. Strange to say the animal was not singed at all, and Mr. B. Kemp, M.R.C.V.S., of Husbands Bosworth, although able to certify that the horse had died through a shock, could not certify that the animal was killed by lightning. The Guardian Insurance Office, although not admitting their liability have but recently decided to pay the £30 for which the horse was insured.

VETERINARY SOCIETIES.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

The winter meeting of the members was held on Tuesday, November 24th, at the Royal Assembly Rooms, Yarmouth. It was largely attended and a highly successful meeting. The President (Mr. W. Shipley, Sen., of Yarmouth) occupied the chair, and amongst those present were Messrs. S. Smith, W. Bower, F. Case, E. Case, Sen., J. Hammond, H. Roberts, E. Case, Jun., F. B. Taylor, C. Nesling, P. Turner, H. Wilkinson, T. E. Auger, J. E. Kitchin, J. K. Gooch, J. D. Overed, W. Shipley, Jun., (hon. sec.) and Dr. Case.

The Hon. Sec. nominated Mr. C. E. Norgate for election.

Mr. T. E. Auger seconded, and this was adopted *nem. con.*

Exemption from Jury Service.

The Hon. Sec. read a letter from the Southern Counties Veterinary Medical Association proposing to petition the Council of the R.C.V.S. to obtain an Act of Parliament to exempt veterinary surgeons from service upon juries. In the course of discussion it transpired that only one member, Mr. J. Hammond, had been inconvenienced in this way.

The Hon. Sec. pointed out that it would cost the College £500 or £600 to pass an Act, and the question was whether it was worth while going to that expense.

Mr. J. Kitchen claimed that veterinary surgeons should enjoy the same privileges as members of the medical profession.

Mr. Hammond then moved that the resolution of the Southern Counties Association be adopted.

Mr. E. Case seconded, and this was carried unanimously.

Strongylus Tetracanthus.

The Hon. Sec. who produced a tray of specimens said that at the February meeting held in Ipswich he read a few notes with reference to "the presence of strongylus tetracanthus in colts" which this autumn seemed to be exceptionally prevalent. He had just been able to obtain specimens from two colts, one fortunately from a colt to which he referred at Ipswich. This colt, after three months' treatment, got well though he never expected it would. The treatment was carbolic acid, and it was carefully nursed. A few days previously it was being exercised when it broke away, slipped on a stone and fractured its pelvis, from which it died. He was able to get parts of the cæcum and colon, and he was very pleased to find traces of the parasites. He had taken two pieces of the colon and stretched them on glass and they showed presence of red worm very plainly. There were some embryo worms, and probably if the specimens were carefully examined microscopically they would find the eggs of the worm. It helped to support his theory that once these worms got into the bowel they remained and bred there—that it was not necessary for the animal to pick them up in another year in order to have a renewed attack. He had another case of a colt which he found suffering very seriously with red worm, and he advised his client to destroy it. He produced a piece of the bowel which was full of worms. There was also a section of the mesenteric blood-vessel plugged with emboli caused by the presence of strongylus armatus. Then there was a small portion of the cœliac axis in which these worms were again present. At Ipswich he said he believed carbolic acid would destroy these worms. He had then had two or three months' experience, and found that the worms would not yield to anything else.

As they were likely this year to have an extra number of these cases, he should like to hear the experience of others.

Mr. Gooch said he had treated red worm for several years with carbolic acid, dialysed iron, and turpentine, which had been a signal success though his last two cases died. No other treatment had any effect at all, and this treatment must be persistently adhered to.

The Hon. Sec. said that in his opinion, where the worm had got into the blood-vessels no recovery was possible, and if they would make a careful post-mortem on those cases that they failed to cure, it would be interesting to ascertain whether the worm had attacked the blood-vessels.

Mr. Gooch said that he had made one hurried post-mortem simply to convince a sceptical owner that his colt had died from the effects of this worm. He, however, only opened the bowel, and there found the parasite.

Mr. F. B. Taylor said he had a case of strongylus tetracanthus in a yearling colt just about the time that the Hon. Sec. read his paper, and he therefore decided to try carbolic acid. He persevered for two or three weeks until meeting Mr. Gooch, who told him of his prescription, and he therefore combined dialysed iron with his mixture of turpentine and carbolic acid. For some time he could find the worm easily in the fæces, but the colt made a good recovery, and was alive at the present time.

Mr. T. E. Auger said that his colts, treated with carbolic acid in addition to turpentine and other things, all recovered. He considered it a very good thing.

Endo-Carditis in the Pig.

The Hon. Sec. next drew attention to a specimen of endo-carditis, a large plug appearing in the valve of the heart of a pig with a little pericarditis. The specimen was intended to bring before a medical society's meeting. The pig, bought fat for slaughter, was supposed to be suffering from swine-fever. He said that he had often found heart disease in pigs. This pig might have been killed and eaten, and no one known anything about it. It was an open sow. He attributed the condition to septic endo-carditis.

Mr. Overed: Prof. McFadyean says it is not unfrequent in swine-fever. I have discovered plugs on many occasions, but not so large as that.

Mr. Gooch: Is it not due to the presence of some micro-organism? Prof. McFadyean says so.

Mr. F. Case said that some months since, he was called to a farm where there were 270 pigs. He picked one from a lot of fifteen which had wasted, and when slaughtered it was found to have a heart like the specimen shown. That was the first case he ever had. Then he went into another yard where there were store pigs, had one slaughtered, and found it with just such another heart. He sent his report to London, and as it was evident the pigs had swine-fever, 174 of them were slaughtered.

Mr. Howard said it might be a plug of lymph which became organised after a time. They found them sometimes in the aorta.

SOME PATHOLOGICAL CONDITIONS OF THE SYNOVIAL ARTICULATIONS, INCLUDING OPEN-JOINTS.

By J. D. Overed, F.R.C.V.S.

The structure of joints in the animal economy owing to their complex nature including bones and cartilage, ligaments, synovial membranes, blood vessels and nerves, and considering the movements they are required to perform in the hunting field, the racecourse, and elsewhere, are exposed to the risk of many accidents simple and severe, and liable to various diseases of more or less importance, some of which are such as try most severely the professional skill and patience of the veterinary surgeon to whose care the patient is entrusted, and who finds too frequently that all his efforts have failed to restore his patient to health and the diseased parts to their normal condition.

Without wearying you with a description of the minute anatomy of the joints, suffice it to say they are classified as follows: 1st the diarthrodial or free moving joints found at the extremities of the long bones and on the faces of short bones. 2nd, the amphiarthrodial or those of limited movement illustrated by the vertebræ; and 3rd, the synarthrodial or those comparatively without movement as in the flat bones of the head in early life.

As it is with the first two classes of joints that we are most concerned in practice, it is chiefly in this direction that my remarks will apply. We find the injuries to which they are exposed, kicks, contusions, punctured and lacerated wounds, are by no means infrequent. Scarcely less frequently are these joints found to be subject to disease in one or other of the following forms: inflammation of the synovial membranes, ulceration of the articular cartilages, calcareous and ossific deposits, caries of the bones, increased or defective synovial secretion, anchylosis of the joints, etc., some of which I propose briefly now to consider.

Inflammation of the synovial membranes or acute synovitis may be present in any true joint, nevertheless some joints are more frequently attacked than others. The attack may be either idiopathic, traumatic, or metastatic, but in any case the treatment with a reasonable prospect of a successful issue must be prompt and decisive.

The Idiopathic or primary form is not usually associated with open joint and consequently is more amenable to treatment. In acute synovitis the attack is generally sudden, the animal is found to walk stiff and "whole," the joints are not flexed, and he moves with great difficulty and prefers the recumbent position. A high state of fever now obtains indicated by a quick and firm pulse, accelerated breathing, occasional rigors, pain more or less severe with probably patches of perspiration on the body or the affected limbs, which soon begin to swell at the joints, these swellings, due to effusion, are at first somewhat soft and elastic to the touch, but shortly become firm, painful and unyielding.

In the treatment of these cases absolute rest is of vital importance in the early stage and should be strictly enjoined, a mild laxative may then be given followed by moderate doses of sedatives, as belladonna, aconite or chloral hydrate, either of which I consider preferable to opium, combined with an alkali, as potass carb. or soda. In the later stages when the strength is impaired nitro-mur. acid, or vegetable tonics as bark, nux vomica, etc., varied by an occasional dose of nitrous ether and potass iodide will be indicated, supplemented by stimulants and a generous diet. The patient should be kept warm and free from draught. Locally the frequent application of warm alkaline fomentations should he had recourse to, and a compound liniment containing soft soap, opium, and ether; or one composed of meth. spirit, potass iodide, and liquor ammon., oil should be gently rubbed into the parts affected, which should then be wrapped in soft flannel secured to the limbs when practicable. At this stage gentle walking exercise should be tried and continued if found helpful. In some cases a mild blister applied to the joints and repeated if necessary will materially expedite recovery by promoting the absorption of the exudate and thus leaving the joint with more freedom of motion.

Traumatic Synovitis differs from the form of disease which we have just noticed, inasmuch as it is either associated with or the result of a wound, which not un-

frequently penetrates or divides the capsular ligament, exposing the synovial membrane and articulation, causing an escape of synovia, and what is popularly known by the term open joint with all its attendant evils. The wound may be either incised, lacerated, or punctured. Lacerated or incised wounds are characteristic of broken knees and when associated with severe contusions producing sloughing of the injured tissue and exposure of the joint, which is by no means of rare occurrence, the case becomes very serious, always impairing the usefulness of the animal, reducing its value, and not unfrequently necessitating its slaughter. Punctured wounds of the joints are more frequent in the elbow and fetlock of the fore extremity, in the stifle and hock of the hind extremity. In addition to these we may have open coffin or navicular joint in either fore or hind feet.

In the treatment of incised or lacerated wounds when associated with open joint our first care must be to carefully examine the wound and remove every particle of dirt or anything else which needs to be removed, then sponge the wound and surrounding parts with an aseptic dressing of hydrarg. chlor. 1 in 1000, and endeavour to close the wound by sutures, adhesive plaister bandages carefully applied, or other means which may be suggested by the requirements of the case, apply two or three films of collodion and cover the wound with a pledget of soft tow, which must be kept in position. Under favourable circumstances the dressings need not be removed for some days, I have left them undisturbed a whole week with the best results. The patient should then be carefully placed in slings, kept perfectly quiet and made as comfortable as circumstances will permit. Cold water irrigation to the wound is highly extolled by some surgeons, and the application of a smart blister to keep the leg fixed is advised. If the patient evinces much pain and restlessness ten drops of Fleming's tr. aconite or ℥ss. of chloral hydrate may be placed in the water, or if the fever runs high the same quantity of potass. nit. may be substituted for the chloral hydrate. A spare diet of mashes, boiled carrots, grass or steeped hay should only be allowed. The treatment above applies to the first stages of the injury, before suppuration has been set up. When this has once been established I am of opinion the wound can only heal by granulation and the treatment must then be varied and directed towards effecting that object.

Metastatic Synovitis, popularly known as joint-ill, is a disease of undoubted septic origin chiefly affecting young suckling animals—foals, calves, and lambs, soon after birth. In foals it generally occurs from the first to the fourth week, and it is chiefly of the disease as affecting foals that I shall now speak. This bane of juvenile animal existence is one with which the veterinary surgeon is much too familiar, for he knows from experience the probable result of his treatment—in the majority of cases notwithstanding all the skill, care, and attention bestowed the patient will probably die. Some persons have sought for the cause of this fatal malady in the abnormal condition of the mother's milk, and others in the influence of heredity, while I am content to believe the disease has its origin in the purulent phlebitis of the umbilical cord, this condition of the cord soon involves the surrounding tissues and is followed by suppuration and pyæmia extending to and infecting the joints, more particularly the hocks.

The first symptom is the extreme difficulty of moving, which is only done with great reluctance and in much pain, for which reason he persistently lies. Around the joints there are œdematous infiltrations, hot and painful to the touch; the usual symptoms of acute fever are present, great thirst is evinced but the appetite is entirely lost. In the first stages the bowels are usually costive, followed soon by diarrhœa or dysenteric purging and extreme prostation of the vital powers. In some instances the disease runs a rapid course and proves fatal in two or three days, but more frequently the case is prolonged to as many weeks, and abscesses form in and around the joints, also in other parts of the body. Sloughing of the skin, involving the ligaments of the joints, then takes place, synovia, pus and coagulated lymph is constantly discharged, the bones and articulations become completely disorganised, and the long suffering patient dies from exhaustion. Internal complications may also be present as pneumonia, pericarditis or icterus, and these hasten a fatal termination of the case. From the foregoing observations it must necessarily follow that the prognosis will be unfavourable, as by far the greater number of cases prove fatal. Bollinger thus describes the post-mortem appearances of two foals, one three weeks, and the other five weeks old. Inflammation and thrombosis of the pulmonary artery and the umbilical vessels continued by the umbilical vein to the portal vein, double pleurisy with pericarditis, purulent arthritis in several joints, intra-muscular and subcutaneous abscesses, and cutaneous erysipelas.

Curative treatment to be of any service must be commenced in the very earliest stage of the disease. Febrifuge medicines with anodynes, followed by tonics and cod liver oil, etc., are the lines indicated, and good nitrogenous gruel, beaten up with eggs, should be freely given, and the general comfort of the patient considered.

Locally aseptic dressings of hydrarg. bichlor., the compound anodyne liniment, collodion, iodoform with tannic acid, or lanoline and carbolic oil, each have their advocates, and may be used at the discretion of the veterinary attendant, and the parts enveloped in fine tow and moist bandages.

Rheumatoid Arthritis.—This disease may arise from either constitutional or local causes. Its chief characteristics are a peculiar rigid condition of the joints affected, generally the stifle joint, especially when the animal is first moved, accompanied with a crackling sound, with in some cases painful muscular spasms simulating stringhalt. The swelling of the joints is caused by effusion into the synovial cavity of the articulation in the early stages, but when the case is of long standing fibrinous and osseous substances are sometimes found in the joint, to the formation of which substances there is a tendency rather than to the destructive process of suppuration. The disease appears to be caused by cold and damp to which the young animal may be exposed, and from the marked tendency to the disease in the progeny of certain mares, one is inclined to suspect that heredity may also be a cause more or less remote.

The treatment, I confess, is palliative rather than curative; nevertheless in some cases the result has been most successful, even beyond expectation. At the commencement a mild purgative may be given, the animal should be placed on short litter in a loose box, and hot fomentations applied to the parts affected two or three times a day, afterwards a refrigerant lotion containing potass. iodide and plumbi acet., well rubbed in for ten minutes each time. This line of treatment is continued for two to four weeks, and is followed by the application of bin-iodide unguent, repeated if necessary. A generous diet is prescribed, and the patient should be kept warm and quiet.

Rheumatoid arthritis is not to be confounded with simple dropsy of the joints (hydrops articuli), in which the secretion of fluid is abnormal and excessive, gradually distending the textures implicated, which, by adapting themselves to the altered circumstances seldom produce lameness. Such cases are best treated by pressure, blisters, or firing, with the view to effect re-absorption of the effused fluid.

Discussion.

Mr. J. Hammond said it had been his practice in past years to use a great deal of warm water for these cases but he found that warm applications were not advan-

tageous. He quite agreed with the essayist as to the advantage of allowing the bandages to remain on for several days. Mr. Overed appeared to be of opinion that the inflammation of the synovial joints in lambs and foals was not congenital, but he felt sure it was congenital in lambs. In several cases in which he was called in he found the ewes doing very badly, suffering from abortion. The placenta was very unhealthy and great mortality amongst them. At the same time that they had this disease he noticed enlargement of the joints. After three or four days the lambs would appear to be fairly healthy and then inflammation of the joints would come on and they died. He came to the conclusion that the lambs' blood was poisoned through the unhealthy state of the ewes.

Mr. W. BOWER said that when the animal was suffering much he found warm fomentations preferable to cold. There came a time of course when they could with judgment use cold. The great idea was to favour the condition of the animal without trying in the first instance to stop the escape of the synovia. Sometimes it could not be stopped for a time; in some cases never. As the animal goes on favourably then they could try to check it by various astringents. Packing of the joint was the great thing to stick to. If they only kept the bandages on, excluding the atmospheric influences, the cases would do well though the condition of the animal must at all times be attended to; during febrile symptoms a low diet, and afterwards it cannot be kept too well.

Mr. W. SHIPLEY, JUN., said his opinion was that open joints were best treated in the first instance as simple wounds. The first treatment must be antiseptic, and next to throw the joint out of work: get it set fast and give it a chance to heal. He had found perchloride of mercury, either by injections or powder, by far the best treatment. He had a case within the last fortnight of a horse with a hole right through the hock joint. On pressing it the synovia flew out as though from a squirt. He took a small piece of perchloride of mercury about the size of a split pea which he put into the hole and considered it sufficiently antiseptic for his purpose. Then he put a blister on the joint to keep it stiff and still, and had a splendid result. He was very much in favour of blistering the joint however great the flow of synovia. There could be no doubt that navel ill was a septic disease due to the introduction of some germ, probably by the umbilicus. Whether it was congenital or became infected at birth was a matter of opinion. He believed the germ obtained access by the umbilicus to the body of the fœtus immediately it was born.

Mr. J. E. KITCHIN said he had had some very bad cases of open joint in horses but he must disagree with the essayist and Mr. Bower in regard to bandaging. He had tried it repeatedly. When he had bandaged up an open knee joint and left it for three or four days he always found that it broke out somewhere else. He had also tried perchloride of mercury without any result whatever. He believed in a continual flow of cold water over the joint. He had a big horse now being treated in this way and it was certainly getting well. This was the treatment now taught at College and advocated by Prof. Macqueen. Of course it could not be done everywhere, but at the Great Eastern Infirmary they had a tap in every stable, the horse was slung and there was a continual flow of cold water over the affected parts. He had a case for two months of open elbow joint caused by a fork. The wasting of the muscle round the shoulder joint was frightful; it stood out just like a skeleton and the horse had to be destroyed. For open knee joint the only treatment he should attempt was cold water. For many cases of punctured feet by picking up nails he found this treatment useful. If he had an obstinate case he took an ordinary poultice bag, filled it with lime, kept repeating it with fresh lime and this stopped the discharge. After that he made a mixture of ordinary whiting and carbolic acid, and spread it on as a paste. For making the horn grow quickly there was nothing better. When a lad with Mr. Robinson, at Greenock, the latter made a splint for open joint; he did not know whether it was much used now in practice but there they used it with very great effect. He quite agreed with blistering and throwing the parts into rest. For open knee joint he blistered inside the heel, behind the knee, and up the elbow, making the horse keep the leg in absolute rest.

The PRESIDENT said he fully concurred in Mr. Kitchin's remarks as to treatment. For freshly-made open knee-joint he had found most beneficial results from the introduction of perchloride of mercury into the wound with an immediate blister. That was one of the best modes of treatment. He had not found any benefit from bandaging, though he had tried it repeatedly, both in fresh and old-standing cases. The joint always inflamed, and it was sure to slough somewhere else. In many cases of open knee-joint unslaked lime has been a very good antiseptic, and facilitated the healing process, by, he presumed, its antiseptic properties. Cold water he had constantly used with the best results. Of course, in country practice they had no waterworks, but they could always adapt something that would answer the purpose in the shape of a receptacle overhead and a length of rubber tubing acting as a syphon, and so getting a continual flow. As to open navicular joint from punctured wounds through nails, bichloride of mercury, either in solution or injection was one of the best means of stopping the flow of synovia. Pure carbolic acid introduced into the wounds where there was a large flow of synovia had also had a most beneficial result. His old friend, Mr. Santy, was particularly in favour of pure carbolic acid being introduced into the cavity of open knee-joints. All these remedies were worth trying. With regard to diseased joints in young animals, he considered that they were due to the introduction of germs through the umbilicus, either from being broken or for want of its being tied after birth, and he suggested in such cases the application of some good antiseptic to the umbilicus at the time of birth as a preventative.

Dr. CASE said that he had seen a joint made aseptic, covered with cotton wool, and laid up for 14 days, and at the end of that time it was perfectly healed up. In the London hospitals, bandages were not taken off for a week or ten days. There was no doubt that aseptic treatment was *the* treatment. There was no germ-killer like perchloride of mercury. Carbolic acid was not in it. Blistering was a very good idea. He had had his knee blistered, and he knew he kept it quiet.

Mr. H. ROBERTS said that cold water was satisfactory in every case of lesion, used with some slight antiseptic. He did not agree with Mr. Hammond that specific anthritis is congenital. He took a lot of trouble when a student at college to get at the bottom of this. In his essay on the subject, printed in *The Veterinarian*, he quoted extensively from Bollinger, who had much experience of it in Bavaria, where it was a terrible scourge in all the large breeding studs. He had a client who told him he was going to breed a mare which always had a schooly foal, and he prepared an antiseptic for him to use, of perchloride of mercury solution, but the result was not satisfactory, and he had a postcard to say that the foal had gone the same way as the others. He thought that infection from the placenta was probable, and that the umbilical cord formed a suitable nidus for the development of the specific germ that was the cause of this disease. They should try to prevent rather than cure this troublesome complaint amongst young stock. Bollinger's treatment was worth several trials if one had an opportunity. He had not had any cases of open

hock-joint, but he should certainly try Mr. Shipley's plan.

Mr. GOOCH said that for the last three or four years he had treated open knee-joints solely by bandages with the best possible results. His usual method was to make the wound perfectly aseptic in the first instance, by thoroughly cleansing it and removing all particles of dead or injured material, and then washing it out by a syringe. Then he applied an antiseptic dressing of perchloride of mercury, and covered the whole limb with ordinary antiseptic cotton wool. This he covered with antiseptic cotton gauze, and then put a bandage over the whole length of the leg from the hoof to above the knee as tightly as possible. It was very important to begin at the top of the hoof, and bandage to above the knee, keeping an equal pressure the whole way up the leg, and by so doing preventing any swelling. He allowed this dressing to remain on for 3, 4, 5, or 6 days. If there was much swelling he removed the dressing, and if not much allowed it to remain. When he took off the bandages he found the wound in a beautifully healthy condition. He kept it undone as short a time as possible, then cleansed it with an antiseptic and bandaged the whole length of the limb again. Since he had adopted this plan he had done away with one of his greatest terrors, open knee-joint. With regard to open hock-joint, generally they were not called in till two or three days after the accident when there was a large amount of inflammation or swelling. Then the best possible treatment was that advised by Mr. Shipley of the introduction of a small plug of perchloride of mercury and the application of a blister. Where he had been called in early to such cases, he had lately applied an antiseptic solution of shellac dissolved in spirit and ether, till it formed a thick crust, covered it with cotton wool, and if possible applied a bandage. In many cases he had had the very best results from this method of treatment. A few years ago oil of cloves was highly extolled, and he used it frequently, but he never saw the least result. He placed his whole confidence in perchloride of mercury for internal injection into the joints and dressing with an antiseptic solution, usually coal tar. He had tried cold water and other treatments, but none of them had answered so well.

Mr. J. KITCHIN said that when in Liverpool he tried putting the whole leg into plaster of Paris, kept the joint perfectly quiet, and the cases came all right.

Mr. W. J. BOWER said that with regard to its breaking out in another place after bandaging he did not object to that. If they could only get the injured part to heal, they would not have much difficulty about healing it afterwards elsewhere. His friend Kitchin rather condemned him for bandaging, but as a fact he had cured by bandaging, for he put on lime and the lime cured because it protected the wound from atmospheric influences. He might not call it a bandage but the wound was being closed in the same way. As to breaking out in another place he had not had any cases of the kind, except when the flow was stopped too quickly. They were not all agreed as to treatment, and it became every man to praise the bridge that carried him safe over. What was right in one case might be wrong in another, and the constitution of the animal was something to be considered. With regard to infection from the umbilicus he treated the umbilical cord as soon as the animal was cast, and had it done thoroughly. He liked to put it on a sawdust floor in a clean stable which he had disinfected thoroughly as well.

Mr. KITCHIN said he did not call a poultice a bandage at all. The discharge was allowed to come into the poultice and the effect of the lime poultice was not pressure at all.

Mr. W. SHIPLEY, JUN., said he quite agreed with Mr. Kitchin that the lime treatment was antiseptic. That must be the treatment for open joints or any other wound. When Mr. Bower speaks about atmospheric influences he is really referring to antiseptic treatment. If they put something on that kept the germs from the wound, whether it was a poultice bag or a bag of lime the result was the same.

The PRESIDENT said that probably Mr. Bower's success in bandaging was not due to the bandage but to his method of applying the bandage over some antiseptic agent. He had tried bandaging right from the fetlock to the elbow but with the very worst results. Had he had the experience then that he had now he should have put an antiseptic under the bandage and the probability was that he should have obtained better results.

Mr. BOWER said that when he had had a nasty little wound in the knees he had very often tried to heal it by making a bigger wound for the sake of getting more granulation.

Mr. HAMMOND said that as to specific synovitis he had seen mares in perfect health with everything satisfactory as regards the placenta and yet their foals had suffered from this very disease. As to lambs he had had instances in which 20 or 30 per cent. of the ewes had done badly. The ewes had had unhealthy placentas and the lambs had come down with specific antheritis. Therefore he came to the conclusion that in lambs it was congenital.

Mr. T. E. AUGER wished to add his testimony to the efficacy of blisters in cases of open joint. He had two cases now of open hock and elbow joint. In the case of the former nothing could be done till they got a blister on it. Where the wound was too large to introduce sublimate the powder could be dusted over it. Both his cases were doing well. In elbow joint cases he found it good policy to carry the blister a good way round the joint and well up the shoulder so as to keep up a good swelling.

Mr. HOWARD said he had come to the conclusion that the cold water treatment was the best when it could be applied A fomentation or few hours syringing was no use. There must be a continued flow of water over the affected part. He had been surprised at the good results from inserting a plug of perchloride of mercury into a wound and allowing it to remain for a few days. He had also tried the varnish treatment with good success. Still he agreed with Mr. Kitchin that if they had the appliances there was nothing better than the continuous application of cold water. It was also a good plan to use perchloride of mercury and bandages of cotton wool bept on for some time without disturbing the wound. In a case of open joint, first cleanse the wound then put the animal into a thoroughly clean healthy sweet-smelling stable; never put it over a bed of filthy manure or some stinking place as that would bring on antheritis in a very severe form. He believed in not disturbing the wounds more than could be helped. The two essentials were cleanliness and perfect rest for the joint. For rheumatoid affections there was nothing better than a good blister, which gave rest and removed the effusion. He had tried the bag of lime and had a very good recovery in a case of open joints of the feet.

Mr. OVERED, in replying to the discussion, said his opinions were formed exclusively upon practice during the past 30 years, and without egotism he could say that it had been as fairly successful as could be wished. Of course all cases of open joint could not be cured, and where there was caries of the bone or anything of that sort animals had to be destroyed, but where cases were not hopeless from the first he had generally succeeded in curing them. He had a troublesome case of open coffin joint last year and his friend Mr. Bower advised alum. He had tried pretty well everything else but he tried alum and had a splendid recovery. He should certainly try alum again. He once had a case of punctured foot caused by a horse picking up the sharp

spinous process of a bullock's spine. It struck through the sole into the coffin joint and was very troublesome to remove. He tried several remedies and was ultimately successful. He had more trouble with punctured joints than with any other cases though it might be because he had not tried lime, as suggested by his friend Mr. Kitchin.

A hearty vote of thanks was then given to Mr. Overed for his paper, on the proposal of Mr. HOWARD, seconded by Mr. SMITH, and supported by the Hon. Sec.

Mr. OVERED having spoken in acknowledgement, Mr. J KITCHIN proposed a hearty vote of thanks to the President. He always had, he said, the greatest pleasure in coming from London to the meetings of the Eastern Counties Veterinary Medical Society. It was always pleasant to come amongst old friends and neighbours, and there was no other veterinary society that entertained them so well, or where they could so enjoy themselves to their hearts content, and at the same time have good discussions in which, though they differed they did so amicably and with such good feeling.

Mr. W. BOWER seconded in similarly appreciative terms, and the President having briefly replied the proceedings ended.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

A special meeting, followed by an ordinary meeting, was held at the Royal College of Veterinary Surgeons, Red Lion Square, Bloomsbury, on Thursday night, the 3rd instant under the chairmanship of Lieut.-Col. J. Kettle, the President of the Society. The other fellows present were:—Messrs. W. F. Barrett, A. L. Butters, J. K. Bruce, H. W. Caton, M. Clarke, C. H. Cordy, F. W. Dowell, T. C. Garry, J. S. Hurndall, F. W. Kendall, Hugh A. MacCormack, Professor Macqueen, F. C. Mahon (Hon. Sec.), J. H. Manton, W. Perryman, R. Porch, Prof. Pritchard, C. J. Reakes, W. Reekie, A. Rogerson, W. Roots, J. Rowe (Hon. Treas.), F. Samson, H. Singleton, W. E. Taylor, J. E. Tooth, G. Upton, W. Willis, S. Villar; and as visitors—Major G. Durrant, A.V.D.; Major S. Duff-Gillespie, A.V.D.; Vet.-Capt. Nunn, C.I.E.; Vet.-Capt. Haslam, M.D., M.A., D.Sc.; Messrs. P. Harris, M.R.C.V.S.; H. M. Lennox-Conyngham, M.R.C.V.S.; and F. Scott, M.R.C.V.S.

SPECIAL MEETING.

The special meeting was convened to consider a motion arising out of a motion, of which Mr. W. Hunting was the proposer, and Mr. H. G. Rogers the seconder. The resolution ran:—"That the trustees be instructed to withdraw the moneys of the Society from deposit account and purchase £100 worth of consols, handing the balance to the treasurer." Neither Mr. Hunting nor Mr. Rogers was present when the proceedings began, the former arriving later and the latter sending a telegram expressing regret at his inability to attend.

Answering Prof. W. Pritchard, Mr. J. ROWE, Hon. Treasurer, said he had a balance in hand of £43, and arrears were outstanding to the amount of about £58.

Prof. PRITCHARD: Then, in round figures, you ought to have £100.

Prof. MACQUEEN: I submit that this meeting is entirely irregular. There was no such remit, as appears on the agenda, from the Council regarding the investment of the funds of this Society, to a special meeting. The special general meeting of the Society was to be held to consider the question of dealing with members in arrear with their subscriptions. I find, according to the rules, that the investment of the funds of the Society is a matter entirely within the power of the Council; and any action of the Council has to be remitted to an ordinary general, and not a special general meeting of the Society. We are now invited to discuss the action of the Council, and probably to alter its decision. Very likely the result will be that we shall have to go back to the Council again.

Mr. BARRETT: Rule 61 says that a special general meeting shall be called for definite objects.

Prof. MACQUEEN: Quite so, but we are putting the cart before the horse.

The CHAIRMAN said he, too, was of opinion that the subject for the meeting was the question raised by Prof. Pritchard—whether fellows who were two years in arrear should cease to be members of the Society. He wrote to the Secretary that, according to his recollection, that was the object of the special meeting and not the consideration of the question of investments. Mr. Mahon replied that he (the Chairman) was mistaken. As, of course, the Secretary took notes of the Council's meeting, and he (the Chairman) did not, he bowed to his decision.

The SECRETARY explained that before the circulars convening the meeting were printed he wrote to Mr. Hunting, asking him whether it was necessary to put down his his proposal as to arrears of subscription on the agenda.

The CHAIRMAN: So the secretary really acted upon Mr. Hunting's letter, and he (Mr. Mahon) wrote to me that this matter of the investment of funds should be brought forward at a special meeting.

Prof. MACQUEEN: The rules are quite distinct. Rules 21 and 26 cover the ground exactly.

Prof. PRITCHARD: I should like the secretary to refer to the motion I brought forward. I was under the impression that the motion dealing with members in arrear with their subscriptions was absolutely carried and settled.

The SECRETARY read minutes of the Council which did not confirm Prof. Pritchard's impression.

Mr. BARRETT: Are we are going to call another meeting to discuss and dispose of this matter with regard to arrears?

Prof. PRITCHARD: We have nothing on the agenda enabling us to deal with the matter to-night.

The CHAIRMAN: This meeting should have been called to enable us to deal with that matter I think the best way out of our difficulty is to consider this meeting at an end, and to proceed with the ordinary meeting. This was agreed.

THE MONTHLY MEETING.

On the motion of Mr. S. Villar, seconded by Professor Pritchard, the minutes of the preceding ordinary meeting were taken as read and were confirmed.

The SECRETARY read communications from Prof. Hobday and Penberthy, and Mr. H. G. Rogers expressive of regret at their inability to be present.,

FOREIGN SERVICE AND HONORARY FELLOWSHIP.

The SECRETARY read a letter which he had received from Vet.-Lieut. T. E. Lewis who wrote:—"Will you kindly note that as I leave for foreign service shortly, I shall unfortunately be obliged to resign my membership of the Central Veterinary Medical Society.

Mr. S. VILLAR: In the ordinary course when resignation is tendered, it has to be received and accepted; but going back to former years, I can remember three instances in which Army officers, fellows of this Society, going on foreign service have been elected honorary members during temporary absence abroad. We can elect Lieut. Lewis a honorary fellow at this meeting, but we can suggest to the Council that they should elect him. I therefore beg to propose that the letter of Lieut. Lewis tendering his resignation be referred to the Council for their consideration.

Mr. TAYLOR seconded the motion, which was carried unanimously.

Mallein and Glanders.

The Secretary read the subjoined letter :—

"West of Scotland Veterinary Medical Association,
East Kilbride, Nov. 1896.

Dear Sir,

I am requested by the members of the above Association to ask you to lay before the members of your Society the following resolution, which was proposed by Dr. M'Call, seconded by Mr. W. Anderson, supported by Mr. P. Moir and carried unanimously at our last meeting :—

"That the West of Scotland Veterinary Medical Association recognising the value of mallein as a diagnostic agent in suspected glanders, recommend that the opinion of the various veterinary medical associations be sought upon this subject, in order to decide the advisability of memorialising the Council of the Royal College of Veterinary Surgeons to lay before the Board of Agriculture the following suggestions : When glanders occurs in a stud of horses compulsory testing with mallein should be performed upon each animal in it, and each horse which responds to the test and is, therefore, glandered according to the test, should be thereafter slaughtered and compensation paid to the owner out of the funds of the Board."

I shall be pleased to hear from you the result of your consideration of the resolution.—Believe me, dear sir, faithfully yours,

Hugh Begg, *Hon. Sec.*

Prof. Pritchard : If my memory serves me rightly, I think this matter has been thrashed out once, if not more than once, by this Society. Still, I think the letter should receive some kind of reply. I move that the letter be suitably acknowledged and that the West of Scotland V.M.A. be informed that the matter to which they refer has already been before the Central Veterinary Medical Society who approve of the suggestion which the Scotch Association has made.

This was seconded by Prof. Macqueen and unanimouly adopted.

Nominations.

The following gentlemen were duly nominated for election as fellows of the Society : Vet.-Capt. J. A. Nunn, F.R.C.V.S., C.I.E., D.S.O., A.V.D. ; Vet.-Capt. A. J. Haslam, B.A., M.D., F.R.C.V.S. A.V.D. ; Vet.-Major G. Durrant, A.V.D. ; Vet.-Major S. Duff Gillespie, A.V.D. ; Messrs. C. H. Welfare, M.R.C.V.S, Tudor House, Staines ; F. R. Stevens, M.R.C.V.S. Redhill ; and J. Nettleton, M.R.C.V.S., Broadway, Hammersmith.

Investment of Funds.

Mr. Barrett said he desired again to bring under the notice of members the question of the investment of the funds of the Society. They had, roughly speaking, deposited in the Hammersmith branch of the London and County Bank £150, and their Treasurer had that night informed them that after meeting the present demands he had a balance in hand of £43. Thus they had altogether about £193. At the preceding meeting they advised that £100 or £150 should, at any rate, be invested in consols. The matter came subsequently before the Council and, rather to the surprise of some of them, it was thought that only £100 should be devoted to the purchase of consols. Some of them considered this was insufficient and that, inasmuch as they had £193 lying idle, they might at least invest £150 in the purchase of consols or invest it in other approved securities. Owing to a mistake that had been made they were unable to discuss this matter at the special meeting which was convened and, therefore, they should be obliged to send a recommendation to the Council directing them to reconsider the matter. Personally, he asked them to direct the Council to invest as large a sum as possible. They had some £160 or £170 to spare and, therefore, why they should limit themselves to an investment of merely £100 he could hardly understand. From the money which lay at the London and County Bank for years past they could only obtain 16s. per cent. whereas by judicious re-investment they might realise 50s., and if they invested £150 they might, he thought, easily get £3 10s. or £4. He thought they might further consider whether it was wise to invest in consols at all at the present time. He considered the Council should invest the surplus money very carefully, regarding themselves as trustees for the Society and using the utmost care in the selection of securities. With consols at their present price of £112, to invest £150 they would need to spend £168. He thought they might wisely purchase other securities—those of the London County Council or the City Corporation for instance—limiting themselves to the securities ordinarily open to trustees and approved by the Court of Chancery. He thought if they invested as carefully as ordinary trustees did that would be sufficient. He should move as a suggestion to the Council "That in the opinion of this meeting the sum of £175 should be invested in securities which are ordinarily open to trustees, as approved by the Court of Chancery." It was for that meeting to say how the money should be invested. By one of the rules the Council were empowered to invest the money of the Society but, he took it, any resolution coming from that meeting—especially if it were unanimously adopted—would have considerable weight with the Council ; and as a member of the Council, he personally should endeavour in every possible way to give effect to any strong opinion which the Society might have in the matter. He asked them to discuss the subject and decide upon the security which they thought desirable.

Mr. Roots seconded the motion.

Mr. Garry said that so far as he understood the meaning of the gentlemen at the Council who favoured the investment of £100 only in consols, it was this : that a sufficient balance should be left to the treasurer to open a banking account. It was felt that if they invested a larger sum than £100, it would leave a very small sum in the hands of the treasurer wherewith to start a banking account.

Prof. Macqueen thought that, as a member of the Council, Mr. Barrett was coming it a bit too strong. Mr. Barrett was a member of the Council, and because he could not conveniently attend the Council meeting, he came to the general meeting, and endeavoured to review the work which had cost the members of the Council a considerable amount of time. He (Prof. Macqueen), as a member of the Council, objected to have the work of that body reviewed in this manner. The very point Mr. Barrett raised had been very carefully considered by a very large meeting of the Council, At that meeting he need hardly tell them, Mr. Barrett was not present.

Mr. Barrett : Yes, I was.

Prof. Macqueen : The last meeting ?

Mr. Barrett : Certainly.

Prof. Macqueen : That only makes the position still worse, because Mr. Barrett's proper place in which to have objected was at the Council meeting.

Mr. Barrett : So I did.

Prof. Macqueen (continuing) said he confirmed Mr. Garry with regard to the intention and meaning of the Council that it would not do to invest more than £100 if it were intended to start a banking accouut. He was surprised at Mr Barrett seeking to undo the work of the Council, seeing that they spent about three hours considering the question.

The Chairman : Excuse my interruption, but on reference to the book, I find Mr. Barrett was present.

Mr. Barrett : And what is more, I opposed this £100. I thought it was not sufficient. Of course, I did not carry it.

Mr. HURNDALL said if, as stated, the Council sat for three hours considering this question, he should like to be favoured with the result of the discussion. He must certainly protest against the position which Prof. Macqueen took with regard to Mr. Barrett. He wanted to limit the private rights of the individual. Mr. Barrett was not then present as a member of the Council, but as an ordinary fellow of that Society, and he (Mr. Hurndall) took it that because Mr. Barrett happened to be a member of the Council, that was no reason at all why he should not have the privilege of expressing his opinion as a fellow. He (Mr. Hurndall) should certainly support the motion that £150 or £170 should be invested according to the price of the securities to be purchased, and he considered the balance would be sufficient wherewith to open a banking account. Any banker would know that a society of that kind, especially at this period of the year, did not carry a large balance. Were they prepared to sacrifice £3 or £4 for the sake of keeping a banking account?

Prof. MACQUEEN asked to be allowed to say a few words in reply to Mr. Hurndall. If anything was wanting in justification of his (Prof. Macqueen's) objection to discussion of this point, the remarks which had just fallen from Mr. Hurndall were ample. He referred to the question of whether the Council had ever considered the cost of starting a banking account. Now, that, to his mind, was simply an indication that this further discussion was only a further waste of time, for the reason that the whole question was considered at the Council, how best they could start a banking account, and whether it would cost much or little, and also the question of the amount of money. If they appointed a council to conduct the business of the Society, they should leave matters largely to the Council until their annual report was presented. Mr. Hurndall asked what the Council had done after a discussion of three hours. Well, if they looked at the agenda paper they would see a notice of motion by Mr. Hunting, that £100 should be invested in consols. That was the decision arrived at, which they were now asked to re-consider.

Mr. BARRETT said two-thirds of the time mentioned—three hours—was consumed not in discussing the question of investments but the subject of the arrears of subscriptions. They were not now discussing the question of a banking account but that of the investment of money lying idle. They had £190 which was practically yielding nothing, and how best to invest most of this was the question. The question of the institution of a banking account was an after consideration. The matter before them was the investment of their funds, and the introduction of the subject of starting a banking account was a mere begging of the real question.

Professor MACQUEEN: I beg your pardon.

The motion was then put and rejected by a considerable majority.

Professor J. MACQUEEN then read a paper by Vet.-Captain Rutherford, on "Indian Hemp." (see page 297).

Royal College of Veterinary Surgeons.

List of names to be removed from the Register through non-compliance with section 5, sub-section 4, of the Veterinary Surgeons Act, 1881.

Adams, J. P. Swainshill, Herefordshire.
Bale, James Otley, Yorkshire.
Bulman, Robert Morpeth, Northumberland.
Cannon, G. T. Bicester, Oxon.
Carter, J. T. P. Park Lodge, Lee, Kent.
Clarke, Hugh
Brookland Villa, Marsland Road, Brookland, Kent.
Coleman, Fredk. 127, High Road, Kilburn.
Davidson, John Longton, Staffordshire.
Dwyer, Edmund Phillip
8, St. John's Gardens, Haverstock Hill, N.W.
Farrington, John F.
Clare Terrace, Harolds Cross, Dublin.
Fairbairn, Wm. 129, Rose Street, Edinburgh.
Fern, Edward Macclesfield, Cheshire.
Fletcher, John Edward Ardrossan, Ayrshire.
Foulkes, Thos. J. Edinburgh.
Galward, M. W.
Sanger's Circus, Hall-by-the-Sea, Margate.
Herron, Gavin A. 58, Hungerford Road, Holloway, N.
Hodgins, W. T. G. Camberley, Surrey.
Home, James 7, Marchmount Street, Edinburgh.
Howell, Herbert Aberdeen Terrace, Clifton.
Kirke, F. Armstrong, Grimsby, Lincolnshire.
Low, Peter Perth.
Mills, James Queen Street, Hitchin, Herts.
Newbury, Thos. S. Tavistock Hotel, Devonport.
Ramsey, T. Kellett Dublin.
Reid, Alexander Magheramorne, Co. Antrim.
Scott, William Clonmel, Co. Tipperary.
Stewart, Daniel Halifax, Yorks.
Sugden, Hon. H. T.
1, Crewkerne Villas, Fairfield Road, Upper Edmonton.
Taylor, H. P. St. Helens, Lancashire.
Towers, J. A. R. Dublin.
Williamson, C. E. Bath Street, Burslem, Staffs.
Wilson, R. Castle Place, Maison Dieu Road, Dover.
Yates, Robert 16, London Road, Glasgow.

OBITUARY

P. B. THREADGILL, Sutton Bridge, Lincs.

A painful case of sudden death occurred on Saturday morning, November 28th. Mr. P. Threadgill, veterinary surgeon (father of Mr. J. T. Threadgill, Wisbech), who has been practising in Sutton Bridge for many years, and who, on the previous evening, was in his usual health, was heard by his son, about five o'clock in the morning, to be groaning in bed, and in a few minutes, before any help could be summoned, he was found to be dead. No inquest was held, as the doctor has been able to certify that heart disease was the cause of death. —*Isle of Ely Advertiser.*

JOSEPH FAULKNER, Rochdale.

On Wednesday morning, November 25th, Mr. Joseph Faulkner, sen., the well-known veterinary surgeon and farrier, of Rochdale, died at his residence, 201, Drake Street. Mr. Faulkner was 67 years old. He had not been well for some time, and a few weeks ago became worse. He became unconscious on Tuesday evening, and gradually sank until eleven o'clock on Wednesday morning, when he died. It was Mr. Faulkner's father, Mr. Samuel Faulkner, who founded the veterinary surgeon's business in Faulkner Street many years ago, and when the founder of the business died he succeeded to the practice, and was actually associated with the business up to the beginning of his illness. Since then his son, Mr. Joseph Faulkner, jun., has managed it. Mr. Faulkner was a familiar figure in Rochdale. For many years he was a director of the Rochdale Carriage Company, and for some considerable time the chairman of the board. In politics Mr. Faulkner was a Conservative, but he never took any active part in political affairs. He was a Churchman, and associated himself with St. Mary's, Wardleworth.—*Rochdale Observer.*

ARMY VETERINARY DEPARTMENT.

Extract from *London Gazette*, dated Dec. 8th, 1896:—
Vet.-Major J. Hammond is placed on retired pay. Dated Dec. 9th, 1896.
Vet.-Captain F. Smith, F.R.C.V.S., to be Vet.-Major. Dated Dec. 9th, 1896.

REVIEW.

A TEXT-BOOK OF BACTERIOLGY.

This book, though nominally a fourth edition, is practically speaking a new work. It contains twenty six added chapters, has been revised and reconstructed. "I hope," says the author in his preface, "that this work will continue to be of use as a text-book for the bacteriological laboratory, and that the chapters on the etiology and prevention of the communicable diseases of man and animals will be not only of scientific interest but of practical value to medical officers of health and veterinary inspectors." The last words are of special importance for they suggest that Professor Crookshank has, in writing the book, kept the requirements of veterinary surgeons well under notice. His long and close association with the Royal Veterinary College and with the Board of Agriculture would have led us to expect this, and the work throughout realises the expectation. It is distinctly the bacteriological text-book for veterinary students and practitioners, as a quotation of a few of the heads of chapters will show. We have Anthrax, Quarter-ill, Pleuro-pneumonia, Grouse disease, Influenza, Cattle-plague, Sheep-pox, Cow-pox, Horse-pox, Swine-fever, Canine distemper, Tuberculosis, Actinomycosis, Glanders, Rabies, Louping-ill, Foot-rot, and many other diseases of animals. These diseases are treated more widely than might be expected from the title, and "any clinical or pathological evidence which may help to throw light on the nature and origin of the contagia is taken into account." This renders the book of greater value to those of us whose education includes only a very elementary knowledge of bacteria.

The work is divided into three parts. The first is technical and treats in a series of chapters of the Morphology and Physiology of Bacteria, the Chemical Products of Bacteria, Antitoxins, the various laboratory instruments and preparations, and of the methods by which the science is pursued. The second division deals with infective diseases and the bacteria associated with them. It is this section in which the different contagious diseases of animals we have just named are dealt with. The third division contains a systematic description of about five hundred bacteria. The book concludes with appendices occupying five or six chapters in which Yeasts, Moulds, Hæmatozoa and Coccidia are treated of, and in which a full description is given of the apparatus and reagents employed in a laboratory.

There are about 300 illustrations, all clearly printed and many beautifully done in colours. Paper, type, and printing are as good as can be.

Professor Crookshank's reputation for caution and exactitude, for a wide grasp of his subject, and for correctness in his conclusions is so thoroughly established that he may be accepted as a safe guide in bacteriology. We need only thank him for having given the veterinarian a splendid text-book on the science of which he is such a consummate master, and we must add that no veterinary library is complete without this standard work.

A text-book of bacteriology, including the etiology and prevention of infective diseases, by Edgar M. Crookshank, M.B., Professor of Comparative Pathology and Fellow of King's College, London. Fourth edition. London: H. K. Lewis, 136, Gower Street, W.C. 1896.

The Rinderpest Microbe.

Dr. Edington's claim to the discovery of the rinderpest microbe is disputed. Mr. Watkins Pitchford, Principal Veterinary Surgeon of Natal, in the report of his rinderpest investigations, says: "I have noticed an announcement in the public press to the effect that the microbe of rinderpest has been discovered by Dr. Edington at Taungs. May I state that it has been growing vigorously in our field laboratory at Netfontein for more than three weeks, and has been thoroughly examined and its life-history studied by Dr. Thieler and myself? The credit of the original discovery is due, I believe, to Dr. Simpson, of Calcutta, who reported his discovery in *The British Medical Journal*, with a description of the organism." This statement was made on November 9, therefore ten days before Dr. Edington's claim was cabled to London.

Accessories at the Smithfield Club Show.

Frost Studs.

The approach of winter suggests the importance of choosing the best plan of shoeing to provide for foothold on slippery roads in this uncertain climate. Nothing has yet been invented to equal the removable steel screw-roughs. There are many patterns. The solid wedge shape is open to the objection that the sharp edge is worn off in one or at most two days' wear, unless a thick layer of snow covers the roads. The H stud is an ingenious invention, sold by Mr. Poppelreuter, of Manchester, which remains sharp until it is worn out. It therefore is economical and effective as an anti-slipping agent.

The Pneumatic Horse Collar.

This form of collar has been sufficiently long in use to render unnecessary any explanation of its advantages. If it does its work as well as ordinary collars, its lightness and neatness at once establish its advantage. On heavy horses we have no experience; on light horses we can confidently recommend it. The pressure is diffused and even, no sore shoulders are possible. The lining is non-absorbent and always clean and cool. Unfortunately its use does not contribute to veterinary surgeons' bills.

The Gillette Clipper.

How great the difference between clipping of to-day and that of half a century ago is seen by the marvellous rapidity the Gillette Horse Clipping Machine performs its work. Several of these machines were on view at the Stand 33, and attracted large crowds of spectators who seemed highly interested in watching this novelty in active operation. So far as the Gillette machine is concerned the acme of perfection in horse clipping

appears to have been reached, for an ordinary horse can be completely deprived of its surplus covering, according to condition of its coat, in from 30 to 40 minutes and turned out with a gloss and finish unsurpassed by the methods at present in vogue. Although only introduced on the market last season it has found its way into many of the highest establishments in the land, including the Royal stables at Windsor, the Royal Mews, Buckingham Palace, and those of the Duke of York and the Duke of Cambridge, who made a very successful attempt the other day as a horse clipper on one of his own horses with one of these machines. So great is the inrush of orders during the present season that Mr. Gillette is registering his business as a limited company.

The Izal Disinfectants (Messrs. Newton, Chambers & Co.) have a good display. Mr. Sallaway, who was in charge, showed a new patent automatic disinfector, adapted for household use, supplying a regulated amount of disinfectant with each discharge of the flushing cistern. The principle of construction may be noted by members who take up sanitary work, and—in the near future, if not the present—dairy inspection. The principle is that of the syphon and the regulator is the air-inlet. We understand that it is the invention of Mr. Chambers (of the firm). It has three noticeable points, it is simple, easily fitted and not expensive. The Izal disinfectants are probably well known to some of our readers, and space does not admit our noticing them at length.

Messrs. Hill & Smith, Brierly Hill, Dudley, show galvanized wrought iron corn bins, cylindrical and D-shaped for stable use, and a corrugated cylindrical pattern which is rain and vermin proof, having a conical lid, with hasp for lock, for outdoor use. Also a corrugated chaff bin—or with wheels, fodder wagon, with capacity from 12 to 40 bushels. With some of the many forms of feeding cribs and troughs and iron piggeries, etc., which they manufacture, our country readers must be familiar.

Diagnosis by Objective Symptoms.

Dr. Schweinfurth's first diagnosis of the ex-Chancellor's case was amusing. When the physician entered Prince Bismarck's study, the latter was absorbed in a mass of State papers. Dr. Schweinfurth at once began questioning him about his symptoms. "I'm very busy," said Bismarck; "I didn't send for you to ask me questions, but to tell me what's the matter with me." "Ah," replied the Doctor, "I see you have sent for the wrong man. What you want is a veterinary surgeon." "How so?" inquired the Chancellor. "A veterinary surgeon," replied Dr. Schweinfurth, "is the only one who prescribes for his patients without asking them a single question."

Abortion.

The sample of a powder made by a West of Scotland vet., and advertised in the Scotch agricultural papers to Prevent Abortion in Cattle, we find to consist of—

Camphor	...	...	...	℥iss.
Sulphur	...	...	...	℥iss.
Armenian bole		...	...	ʒj.

Mix.

Chemist and Druggist.

Personal.

Mr. Fras. Evelyn Place, M.R.C.V.S., has been elected a Fellow of the Institute of Sanitary Engineers.

CORRESPONDENCE.

"RUDE LETTERS."

Sir,

Do you consider the enclosed is worthy of a place under "Rude Letters?" if so I should feel obliged by your publishing same in full. This, I have very little doubt, is a result of officers going through a short veterinary course in the Army, my client (that was) considering himself such an expert that he thought it was absolutely necessary for the well-being of his horse that I should hold a consultation with him as to my diagnosis, lines of treatment, and the properties of each drug administered. I have not up to now answered the enclosed, treating it with utter contempt.—Yours truly,

T. J. Wooff.

8, Croom's Hill, Greenwich,
December 9th, 1896.

11, Wellington Road, Old Charlton,
December 2nd, 1896.

Dear Sir,

I have repeatedly requested that you should supply me with *prescriptions* when you attend my horses. You prefer that I should be put to the trouble of sending my man to Greenwich for a bottle of stuff, the nature of which is unknown to me. Kindly say if you are willing to supply prescriptions or not. I want the following *prescriptions*: drench supplied yesterday, iodide ointment supplied for lump on back. Please send yr a/c. —Yours faithfully,

A. G. Tisdall.

Wooff, Esq., M.R.C.V.S.

THE PUFF DIRECT.

Sir,

Most of us have heard of literary log rolling and the puff oblique, but for the puff direct commend me to the letter of M. H. Hayes, Esq., F.R.C.V.S., in last week's issue of *The Record*.

I agree with him in what he says about Mr. Dyer, for on reading the latter gentleman's letter in *The Record* I involuntarily said to myself "Heaven preserve this man from entering into the realms of authorship, if his letter is a sample of grammatical knowledge, versatility of expression, and lucidity of style."

But doesn't Mr. Hayes offend against the rules of good taste and self praise etc., aphorism when such a sentence as this occurs in his letter "I have studied the subject (equine locomotion) as Mr. Dyer may see if he takes the trouble to read the new edition of my book, *Points of the Horse*, which will be published next week." Is not this direct advertising with a vengeance? Such should have been left to the reviewers. In the somewhat unnecessary list of foreign authors Mr. Hayes gives as having himself perused (the reason of the publication of these seems obvious to me) he ignores the fact that an Englishman distinguished in his profession, viz., Capt. Fred Smith, F.R.C.V.S., has done more to enlighten the modern English veterinarian about the paces of the horse than himself, Stonehenge and Frenchmen put together.—Yours sincerely,

G. Mayall, M.R.C.V.S.

Communications, Books, and Papers Received—Messrs. E. H. Scott, G. Mayall, J. E. Miller, J. Gregg, F. Crowhurst, "A Member," "Progress," "Benighted." *Agricultural Journal* (Cape.)

Communications for the Editor to be addressed 20 Fulham Road, S.W.